

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, July 2020**

**Course : Data Communication & Computer Networks**

**Program : B.Tech(CSE+OSS&OS)**

**Course Code: CSEG2009**

**Semester : IV**

**Time : 02 hrs.**

**Max. Marks: 100**

Points: **1**

**1. Multiple Choice: Retransmission of packets must not be...**

**Question** Retransmission of packets must not be done when \_ **Answer** Packet is lost

Packet is corrupted

Packet is needed

← **OK**



Packet is error-free

**2. Multiple Choice: Backpressure technique can be applied...**

Points: **1**

<b>Question</b>	Backpressure technique can be applied only to
<b>Answer</b>	<input type="checkbox"/> Closed circuit networks
	<input type="checkbox"/> Open circuit networks
	<input checked="" type="checkbox"/> Virtual circuit networks
	<input type="checkbox"/> Congestion networks

**3. Multiple Choice: Which of the following are transport ...**

Points: **1**

<b>Question</b>	Which of the following are transport layer protocols used in networking?
<b>Answer</b>	<input checked="" type="checkbox"/> TCP and UDP
	<input type="checkbox"/> HTTP and FTP
	<input type="checkbox"/> UDP and HTTP
	<input type="checkbox"/> TCP and FTP

**4. Multiple Choice: Let the size of congestion window of ...**

Points: **3**

<b>Question</b>	Let the size of congestion window of a TCP connection be 32 KB when a timeout occurs. The round trip time of the connection is 100 msec and the maximum segment size used is 2 KB. The time taken (in msec) by the TCP connection to get back to 32 KB congestion window is
<b>Answer</b>	<input checked="" type="checkbox"/> 1100 to 1300
	<input type="checkbox"/> 1500 to 1700
	<input type="checkbox"/> 800 to 1000
	<input type="checkbox"/> 1400 to 1600



□ 5. Multiple Choice: Which of the following functionalitie...

Points: 2

<b>Question</b>	Which of the following functionalities must be implemented by a transport protocol over and above the network protocol ?
<b>Answer</b>	Packet delivery in the correct order
	<input checked="" type="checkbox"/> End to end connectivity
	Detection of duplicate packets
	Recovery from packet losses

□ 6. Multiple Choice: Which of the following IP address can...

Points: 2

<b>Question</b>	Which of the following IP address can be used in WAN?
<b>Answer</b>	<input checked="" type="checkbox"/> 15.1.5.6
	172.16.0.10
	10.0.0.1
	None

□ 7. Multiple Choice: "If a class B network on the Internet...

Points: 2

<b>Question</b>	"If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?"
<b>Answer</b>	2047
	1023
	<input checked="" type="checkbox"/> 2046
	1022

□ 8. Multiple Choice: "To test the IP stack on your local h...

Points: 2

<b>Question</b>	"To test the IP stack on your local host, which IP address would you ping?"
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**Answer** 127.0.0.255

127.0.0.1

1.0.0.127

127.0.0.0

9. Multiple Choice: "In the IPv4 addressing format, the n...

Points: 2

**Question** "In the IPv4 addressing format, the number of networks allowed under Class C addresses is"

**Answer** 2 power 7

2 power 24

2 power 21

2 power 14

10. Multiple Choice: What is the maximum number of IP addr...

Points: 2

**Question** What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?

**Answer** 10

30

20

40

11. Multiple Choice: The class-based addressing is also kn...

Points: 1

<b>Question</b>	The class-based addressing is also known as
<b>Answer</b>	<input checked="" type="checkbox"/> Classful Model
	<input type="checkbox"/> Modern Model
	<input type="checkbox"/> Classless Model
	<input type="checkbox"/> Heterogeneous Model

12. Multiple Choice: What is the size of Source and Destin...

Points: 1

<b>Question</b>	What is the size of Source and Destination IP address in IP header?
<b>Answer</b>	<input checked="" type="checkbox"/> 32 bits
	<input type="checkbox"/> 16 bits
	<input type="checkbox"/> 8 bits
	<input type="checkbox"/> 4 bits

13. Multiple Choice: What does the port number in a TCP CO...

Points: 1

<b>Question</b>	What does the port number in a TCP connection specify?
<b>Answer</b>	<input checked="" type="checkbox"/> It specifies the communication process on the two end systems
	<input type="checkbox"/> It specifies the quality of the data & connection
	<input type="checkbox"/> It specify the size of data
	<input type="checkbox"/> All of the above

14. Multiple Choice: Which of the following is correct in ...

Points: 1

<b>Question</b>	Which of the following is correct in CIDR?
<b>Answer</b>	<input type="checkbox"/> There are only two networks

There are high & low class network

"There is no concept of class A, B, C networks"

Class A includes Class B network

**15. Multiple Choice: What is the natural mask for a class ...**

Points:

<b>Question</b>	What is the natural mask for a class C Network?
<b>Answer</b>	<input type="checkbox"/> 255.255.255.1
	<input type="checkbox"/> 255.255.255.255
	<input type="checkbox"/> 255.255.255.254
	<input checked="" type="checkbox"/> 255.255.255.0

**16. Multiple Choice: Routing tables of a router keeps trac...**

Points:

<b>Question</b>	Routing tables of a router keeps track of
<b>Answer</b>	<input checked="" type="checkbox"/> Routes to use for forwarding data to its destination
	<input type="checkbox"/> Distribute IP address to network devices
	<input type="checkbox"/> Port Assignments to network devices
	<input type="checkbox"/> MAC Address Assignments



□ **17. Multiple Choice: What is the usable size of Network bi...**

Points: **2**

**Question**

What is the usable size of Network bits in Class B of IP address?

**Answer**  16

14


8

4



**18. Multiple Choice: What is the purpose of preamble bits ...**


Points: **1**

<b>Question</b>	What is the purpose of preamble bits in an ethernet frame?
<b>Answer</b>	Initialization of ARP
	Pre-bit counting
	Destination address
	 Synchronization



**19. Multiple Choice: "In a Go-Back-N ARQ, if the window si...**

Points: **2**

<b>Question</b>	"In a Go-Back-N ARQ, if the window size is 63, what is the range of sequence numbers?"
<b>Answer</b>	1 to 64
	1 to 63
	0 to 64
	 0 to 63

Points: 2

□ 20. Multiple Choice: "Bridging occurs at \_\_\_\_\_ layer o...

**Question** "Bridging occurs at \_\_\_\_\_ layer of the OSI reference model, whereas routing occurs at \_\_\_\_\_ layer."

**Answer** "Transport Layer, Network Layer"

"Data Link Layer, Network layer "

"Network Layer, Data Link Layer"

"Application Layer, Network Layer"

Points: 1

□ 21. Multiple Choice: What are the basic activities of rout...

**Question** What are the basic activities of route information management?

**Answer** Route Storage

Route Selection

Route Advertisement

All of the above

**22. Multiple Choice: The name of the transmission media de...**

Points: 1

<b>Question</b>	The name of the transmission media delivers the utmost transmission speed in a network?
<b>Answer</b>	<input type="checkbox"/> twisted pair cable
	<input checked="" type="checkbox"/> optical fiber
	<input type="checkbox"/> coaxial cable
	<input type="checkbox"/> fiber electrical cable

**23. Multiple Choice: There are bi-directional links betwee...**

Points: 1

<b>Question</b>	There are bi-directional links between each possible node. Which network topology is used for it?
<b>Answer</b>	<input type="checkbox"/> Ring
	<input type="checkbox"/> Star
	<input type="checkbox"/> Tree
	<input checked="" type="checkbox"/> Mesh

□ 24. Multiple Choice: "Consider a network, if the signal s ...

Points: 2

<b>Question</b>	"Consider a network, if the signal s bandwidth is 7 KHz and the lowest frequency is 61 HHZ, Find out the highest frequency? "
<b>Answer</b>	<input checked="" type="checkbox"/> 68 KHz
	<input type="checkbox"/> 54 KHz
	<input type="checkbox"/> 50 KHz
	<input type="checkbox"/> 61 KHz

□ 25. Multiple Choice: How many bits are required for adres...

Points: 2

<b>Question</b>	How many bits are required for addressing the Gigabit Ethernet?
<b>Answer</b>	<input type="checkbox"/> 128
	<input type="checkbox"/> 64
	<input checked="" type="checkbox"/> 48
	<input type="checkbox"/> 32

□ 26. Multiple Choice: Which propagation is used if the Sign...

Points: 1

<b>Question</b>	Which propagation is used if the Signals with a frequency lower than 2 MHz
<b>Answer</b>	<input type="checkbox"/> line-of-sight
	<input type="checkbox"/> sky
	<input checked="" type="checkbox"/> Ground

None of the above

**27. Multiple Choice: A limited telephone network is an exa...**

Points: **1**

<b>Question</b>	A limited telephone network is an example of which network?
<b>Answer</b>	Packet switched
	<input checked="" type="checkbox"/> Circuit switched
	<input type="checkbox"/> Bit switched
	<input type="checkbox"/> Line switched

**28. Multiple Choice: "A slotted ALOHA network transmits 20... 20...**

Points: **3**

<b>Question</b>	"A slotted ALOHA network transmits 200 bits frames using a shared channel with 200 kbps bandwidth. If the system (all stations put together) produces 1000 frames per second, then the throughput of the system is ....."
<b>Answer</b>	0.268
	<input type="checkbox"/> 0.468
	<input checked="" type="checkbox"/> 0.368
	<input type="checkbox"/> 0.568

Points: **2**

**29. Multiple Choice: The checksum of 1111 and 1111 is**

\_...

<b>Question</b>	The checksum of 1111 and 1111 is .
<b>Answer</b>	A. 1111
	<input checked="" type="radio"/> B. 0000
	C. 1110
	D. 0111

10 of 20

Points: **2**

**30. Multiple Choice: Which ARQ mechanism deals with the tr...**

<b>Question</b>	Which ARQ mechanism deals with the transmission of only damaged or lost frames despite the other multiple frames by increasing the efficiency & its utility in noisy channels?
<b>Answer</b>	Go-Back-N ARQ
	<input checked="" type="radio"/> Selective Repeat ARQ
	Stop-and-Wait ARQ
	All of the above

31. Multiple Choice: When Useful bandwidth of medium exceeds the required bandwidth of signals to be transmitted we use

Points: 1

<b>Question</b>	When Useful bandwidth of medium exceeds the required bandwidth of signals to be transmitted we use
<b>Answer</b>	<input type="radio"/> Time division multiplexing
	<input type="radio"/> Code division multiplexing
	<input checked="" type="radio"/> Frequency division multiplexing
	<input type="radio"/> None of the above

32. Multiple Choice: "In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be \_ \_."

Points: 2

<b>Question</b>	"In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _ _."
<b>Answer</b>	<input checked="" type="radio"/> 1
	<input type="radio"/> 15



16
31

**33. Multiple Choice: "In Selective Repeat ARQ, if 5 is the...**

Points: **2**

<b>Question</b>	"In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be_____."
<b>Answer</b>	<input type="radio"/> 1 <input type="radio"/> 15 <input checked="" type="radio"/> 16 <input type="radio"/> 31

**34. Multiple Choice: "In ....., each packet o...**

Points: **1**

<b>Question</b>	"In ....., each packet of a message follows the same path from sender to receiver."
<b>Answer</b>	<input checked="" type="radio"/> circuit switching <input type="radio"/> message switching <input type="radio"/> virtual approach to packet switching <input type="radio"/> datagram approach to packet switching

**35. Multiple Choice: Which of the following statements is ...**

Points: **2**

<b>Question</b>	Which of the following statements is TRUE about CSMA/CD
<b>Answer</b>	<input type="radio"/> IEEE 802.11 wireless LAN runs CSMA/CD protocol <input type="radio"/> Ethernet is not based on CSMA/CD protocol <input checked="" type="radio"/> CSMA/CD is not suitable for a high propagation delay network like satellite network <input type="radio"/> There is no contention in a CSMA/CD network

36.  **Multiple Choice: Which of the following statement is F...**Points: **1**

<b>Question</b>	Which of the following statement is False about the efficiency of the given channel?
<b>Answer</b>	"If we want to send big packets on the channel, then Stop and Wait is good choice."
	"If length of packet increases, efficiency of channel also increases."
	<input checked="" type="checkbox"/> Distance between sender and receiver is directly proportional to efficiency of channel
	Efficient might be less if capacity of channel is high.

37.  **Multiple Choice: How many check bits are required for ...**Points: **2**

<b>Question</b>	How many check bits are required for 16 bit data word to detect 2 bit errors and single bit correction using hamming code?
<b>Answer</b>	5
	<input checked="" type="checkbox"/> 6
	7
	8

38.  **Multiple Choice: The address resolution protocol (ARP)...**Points: **1**

<b>Question</b>	The address resolution protocol (ARP) is used for
<b>Answer</b>	Finding the IP address from the DNS
	Finding the IP address of the default gateway
	Finding the IP address that corresponds to a MAC address
	<input checked="" type="checkbox"/> Finding the MAC address that corresponds to an IP address

Points: **1**

**39. Multiple Choice: "Transmission of data in Physical, Da...**

<b>Question</b>	"Transmission of data in Physical, Data link, network and transport layer in the form of (respectively)."
<b>Answer</b>	<input type="checkbox"/> "Frames, Packets, Bits, and Segments" <input type="checkbox"/> "Packets, Bits, Frames, and Segments" <input type="checkbox"/> "Packets, Frames, Segments, and Bits" <input checked="" type="checkbox"/> "Bits, Frames, Packets, and Segments"

**40. Multiple Choice: A datagram of 3000 Byte (20 byte of I...**

Points: **2**

<b>Question</b>	A datagram of 3000 Byte (20 byte of IP header + 2980 Byte IP payload) reached at router and must be forward to link with MTU of 500 Bytes. How many fragments will be generated and also calculate offset value of packet 6.
<b>Answer</b>	<input type="checkbox"/> "8,140" <input type="checkbox"/> "9,140" <input checked="" type="checkbox"/> 9175 <input type="checkbox"/> None of the above

**41. Multiple Choice: "if the bandwidth of the line is 3.0 ...**

Points: **2**

<b>Question</b>	"if the bandwidth of the line is 3.0 mbps, RTT is 45 ms and packet size is 1 KB, then find the sender utilization in stop and wait protocol."
<b>Answer</b>	<input type="checkbox"/> 8% <input type="checkbox"/> 0.09 <input type="checkbox"/> 0.092 <input checked="" type="checkbox"/> 0.0834

**42. Multiple Choice: "If the packet size is 1kb and propag...**

Points: **3**

<b>Question</b>	"If the packet size is 1kb and propagation time is 10 ms, the channel capacity is $10^6$ b/s. then find the transmission time and utilization of sender in stop and wait protocol."
<b>Answer</b>	0.19
	<input checked="" type="radio"/> 0.29
	<input type="radio"/> 2.1
	<input type="radio"/> 1.5

**43. Multiple Choice: Suppose a source and destination 20 k...**

Points: **2**

<b>Question</b>	Suppose a source and destination 20 km apart and one way delay of 200 microsec. At what data rate does the round trip delay equals the transmission delay for a 1KB packet?
<b>Answer</b>	<input type="radio"/> 19.99 mbps
	<input checked="" type="radio"/> 20.48 mbps
	<input type="radio"/> 20.99 mbps
	<input type="radio"/> 20.89 mbps

**44. Multiple Choice: A medium has propagation delay of 35**Points: **2**

...

<b>Question</b>	A medium has propagation delay of 35 msec and a bit rate of 6kbps. For what range of frame size does stop and wait give an efficiency of 50%?
<b>Answer</b>	410 bits
	417 bits
	419 bits
	<input checked="" type="checkbox"/> 420 bits

 **45. Multiple Choice: "In selective repeat, Consider frames...**Points: **3**

<b>Question</b>	"In selective repeat, Consider frames from 0 to 6 have been transmitted, now imagine that 0 times out, a new frame 7 is transmitted, 1 times out, 2 times out and new frame 8 is transmitted. what will be the outstanding packets in senders window?"
<b>Answer</b>	821706542
	<input checked="" type="checkbox"/> 345607128
	5607128
	1706542

**46. Multiple Choice: Consider a node with IP address 150.1...** Points: **3**

<b>Question</b>	Consider a node with IP address 150.100.1.1. Suppose it wants to transmit a data to all nodes within the network. What is the source IP address and Destination IP address.
<b>Answer</b>	SIP- 150.100.1.1 and DIP-255.0.0.0
	SIP- 150.100.1.1 and DIP-255.255.0.0
	SIP- 150.100.1.1 and DIP-255.255.255.0
	<input checked="" type="checkbox"/> SIP- 150.100.1.1 and DIP-255.255.255.255

**47.**  **Multiple Choice: Calculate the total number of bits al...** Points: **2**

<b>Question</b>	Calculate the total number of bits allocated for NID and HID in 30.190.155.232 address?
<b>Answer</b>	NID-16 bits and HID=16 bits.
	<input checked="" type="checkbox"/> NID-8 bits and HID=24 bits
	NID-24 bits and HID=8 bits.
	NID-24 bits and HID=0 bits.

**48. Multiple Choice: A CSMA/CD network sends packet at a** Points: **2** 7/22/2020, 12:09 AM

r...

<b>Question</b>	A CSMA/CD network sends packet at a rate of 150 Mbps over 1.5 km cable. Suppose the minimum frame size for the network is 1000 bytes. What is the signal speed in km/sec?
<b>Answer</b>	<input checked="" type="radio"/> 56250 <input type="radio"/> 56249 <input type="radio"/> 56071 <input type="radio"/> 56251

49. Multiple Choice: "In Ipv4 addressing format, the number of network allowed under class A address is:"

Points: **2**

<b>Question</b>	"In Ipv4 addressing format, the number of network allowed under class A address is:"
<b>Answer</b>	<input type="radio"/> 2 <sup>14</sup> <input checked="" type="radio"/> 2 <sup>7</sup> <input type="radio"/> 2 <sup>21</sup> <input type="radio"/> 2 <sup>24</sup>

50. Multiple Choice: consider a network with network id 201.1.2.0. Perform the subnetting in this network by dividing it into 4 parts. The network id of subnet A will be

Points: **2**

<b>Question</b>	consider a network with network id 201.1.2.0. Perform the subnetting in this network by dividing it into 4 parts. The network id of subnet A will be
<b>Answer</b>	<input checked="" type="radio"/> 201.1.2.0 <input type="radio"/> 201.1.0.0 <input type="radio"/> 201.1.2.128 <input type="radio"/> 201.1.2.0

51. Multiple Choice: consider a network with network id 201.1.2.0. Perform the subnetting in this network by dividing it into 4 parts. The network id of subnet A will be

Points: **2**  
7/22/2020, 12:09 AM

<b>Question</b>	consider a network with network id 201.1.2.0. Perform the subnetting in this network by dividing it into 4 parts. The network id of subnet B will be
<b>Answer</b>	<input type="radio"/> 201.1.2.0 <input type="radio"/> 201.1.0.0 <input type="radio"/> 201.1.2.128 <input checked="" type="radio"/> None

**52. Multiple Choice: If the subnet mask of the network is**

Points: **2**

...

<b>Question</b>	If the subnet mask of the network is 255.255.255.224. Calculate the number of hosts present in the network
<b>Answer</b>	<input checked="" type="radio"/> 30 <input type="radio"/> 32 <input type="radio"/> 28 <input type="radio"/> None

**53. Multiple Choice: If the subnet mask of the network is**

Points: **3**

...

<b>Question</b>	If the subnet mask of the network is 255.255.255.224. Calculate the number of subnets present in class A.
<b>Answer</b>	<input type="radio"/> 2 <sup>18</sup> <input checked="" type="radio"/> 2 <sup>19</sup> <input type="radio"/> 2 <sup>20</sup> <input type="radio"/> none

**54. Multiple Choice: If the ip address of a hop is 195.10....**

Points: **2** / 22/2020, 12:09 AM



<b>Question</b>	If the ip address of a hop is 195.10.20.128/22. Calculate the value of HID.
<b>Answer</b>	<input checked="" type="radio"/> 10 <input type="radio"/> 8 <input type="radio"/> 12 <input type="radio"/> none

**55. Multiple Choice: Suppose a network has network id 196....** Points: **3**

<b>Question</b>	Suppose a network has network id 196.1.2.128/26. Perform the sub netting by divide the network into two equal parts and calculate the range of both the subnets.
<b>Answer</b>	<input checked="" type="radio"/> 196.1.2.128 to 196.1.2.159 and 196.1.2.160 to 196.1.2.191 <input type="radio"/> 196.1.2.0to 196.1.2.127and 196.1.2.128 to 196.1.2.191 <input type="radio"/> 196.1.2.64 to 196.1.2.127 and 196.1.2.128 to 196.1.2.191 <input type="radio"/> none

**56. Multiple Choice: "X and Y are the only stations on the...** Points: **3**

<b>Question</b>	"X and Y are the only stations on the Ethernet. Each has a steady queue of frames to send both X and Y attempt to send a frame, collide and Y wins first back off race. Now again X and Y attempt to transmit and collide. The probability that X wins the second back off is ."
<b>Answer</b>	<input type="radio"/> 0.19 <input checked="" type="radio"/> 0.125 <input type="radio"/> 0.127 <input type="radio"/> 0.128

Select: [All](#) [None](#) Select by Type:

Points

